

What is claimed is:

1. An apparatus to communicate a set of data symbols $d(i)$ where $i = 1, \dots, n$, the apparatus comprising:

a set of transmission lines $l(i)$ where $i = 1, \dots, n$, where transmission line $l(i)$ propagates a signal $x(i)$ for $i = 1, \dots, n$;

a set of receivers $r(i)$ where $i = 1, \dots, n$, wherein receiver $r(i)$ is connected to transmission line $l(i)$ to receive the signal $x(i)$ for each $i = 1, \dots, n$;

a set of drivers $t(i)$ where $i = 1, \dots, n$, where driver $t(i)$ is connected to transmission line $l(i)$ to transmit the signal $x(i)$ for each $i = 1, \dots, n$; and

a mapper to map the set of data symbols $d(i)$ to the signals $x(i)$ for $i = 1, \dots, n$, wherein for each $i = 1, \dots, n$, $x(i)$ is a function of $d(i)$ and at least one $d(j)$ for $j \neq i$.

2. The apparatus as set forth in claim 1, wherein the mapper comprises:

a table, wherein the table stores words addressed by the set of data symbols, wherein for each $i = 1, \dots, n$, the driver $t(i)$ transmits the signal $x(i)$ in response to a word stored in the table.

3. The apparatus as set forth in claim 1, wherein the mapper comprises:

a finite state machine, wherein the finite state machine in response the set of data symbols provides words to the set of drivers, wherein for each $i = 1, \dots, n$ driver $t(i)$ transmits the signal $x(i)$ in response to a word.

4. The apparatus as set forth in claim 1, wherein the set of transmission lines is such that transmission line $l(i)$ for an i has capacitive coupling with another transmission line $l(j)$ where $j \neq i$.

5. The apparatus as set forth in claim 1, wherein for each $i = 1, \dots, n$, receiver $r(i)$ provides an estimate of $d(i)$ based upon the signal $x(i)$ independently of $x(j)$ for $j \neq i$.

6. The apparatus as set forth in claim 5, wherein the mapper comprises:
a table, wherein the table stores words addressed by the set of data symbols,
wherein for each $i = 1, \dots, n$ driver $t(i)$ transmits the signal $x(i)$ in response to a word stored in the table.

7. The apparatus as set forth in claim 5, wherein the mapper comprises:
a finite state machine, wherein the finite state machine in response the set of data symbols provides words to the set of drivers, wherein for each $i = 1, \dots, n$ driver $t(i)$ transmits the signal $x(i)$ in response to a word.

8. The apparatus as set forth in claim 5, wherein the set of transmission lines is such that transmission line $l(i)$ for an i has capacitive coupling with another transmission line $l(j)$ where $j \neq i$.

9. A computer system comprising:

a set of transmission lines $l(i)$ where $i = 1, \dots, n$, where transmission line $l(i)$ propagates a signal $x(i)$ for $i = 1, \dots, n$;

a first die comprising:

a set of drivers $t(i)$ where $i = 1, \dots, n$, where driver $t(i)$ is connected to transmission line $l(i)$ to transmit the signal $x(i)$ for each $i = 1, \dots, n$;

a mapper to map a set of data symbols $d(i)$ to the signals $x(i)$ for $i = 1, \dots, n$, wherein for each $i = 1, \dots, n$, $x(i)$ is a function of $d(i)$ and at least one $d(j)$ for $j \neq i$; and

a second die, the first die connected to the second die by the set of transmission lines, the first die to communicate the set of data symbols $d(i)$ where $i = 1, \dots, n$ to the second die, the second die comprising:

a set of receivers $r(i)$ where $i = 1, \dots, n$, wherein receiver $r(i)$ is connected to transmission line $l(i)$ to receive the signal $x(i)$ for each $i = 1, \dots, n$.

10. The apparatus as set forth in claim 9, wherein the mapper comprises:

a table, wherein the table stores words addressed by the set of data symbols, wherein for each $i = 1, \dots, n$ driver $t(i)$ transmits the signal $x(i)$ in response to a word stored in the table.

11. The apparatus as set forth in claim 9, wherein the mapper comprises:

a finite state machine, wherein the finite state machine in response the set of data symbols provides words to the set of drivers, wherein for each $i = 1, \dots, n$ driver $t(i)$ transmits the signal $x(i)$ in response to a word.

12. The apparatus as set forth in claim 9, wherein the set of transmission lines is such that transmission line $l(i)$ for an i has capacitive coupling with another transmission line $l(j)$ where $j \neq i$.

13. The apparatus as set forth in claim 9, wherein for each $i = 1, \dots, n$, receiver $r(i)$ provides an estimate of $d(i)$ based upon the signal $x(i)$ independently of $x(j)$ for $j \neq i$.

14. The apparatus as set forth in claim 13, wherein the mapper comprises:
a table, wherein the table stores words addressed by the set of data symbols,
wherein for each $i = 1, \dots, n$ driver $t(i)$ transmits the signal $x(i)$ in response to a word stored in the table.

15. The apparatus as set forth in claim 13, wherein the mapper comprises:
a finite state machine, wherein the finite state machine in response the set of data symbols provides words to the set of drivers, wherein for each $i = 1, \dots, n$ driver $t(i)$ transmits the signal $x(i)$ in response to a word.

16. The apparatus as set forth in claim 13, wherein the set of transmission lines is such that transmission line $l(i)$ for an i has capacitive coupling with another transmission line $l(j)$ where $j \neq i$.

17. A method to provide crosstalk equalization, the method comprising:

mapping a set of data symbols $d(i)$, $i = 1, \dots, n$ to a set of signals $x(i)$, $i = 1, \dots, n$, wherein for each $i = 1, \dots, n$, $x(i)$ is a function of $d(i)$ and at least one $d(j)$ for $j \neq i$; and

transmitting the set of signals on a set of transmission lines $l(i)$, $i = 1, \dots, n$, where for each $i = 1, \dots, n$, $x(i)$ is transmitted on transmission line $l(i)$.

18. The method as set forth in claim 17, further comprising:

receiving the set of signals by a set of receivers $r(i)$ where $i = 1, \dots, n$, wherein for each $i = 1, \dots, n$, receiver $r(i)$ estimates the data symbol $d(i)$ based upon the signal $x(i)$ independently of the signals $x(j)$ for $j \neq i$.

19. A set of drivers $t(i)$, where $i = 1, \dots, n$, to communicate a set of data symbols $d(i)$, where $i = 1, \dots, n$, where driver $t(i)$ is to transmit a signal $x(i)$ for each $i = 1, \dots, n$, the set of drivers comprising:

a mapper to map the set of data symbols $d(i)$ to the signals $x(i)$ for $i = 1, \dots, n$, wherein for each $i = 1, \dots, n$, $x(i)$ is a function of $d(i)$ and at least one $d(j)$ for $j \neq i$.

